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**Information Technology and Electrical
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Christoph Meinel

Interdisciplinarity and Cooperation with Industry in Teaching and Research

Abstract

Hasso Plattner Institute (HPI) for IT-Systems Engineering at the University of Potsdam founded 1998 is Germany's only entirely privately-financed university institute. It is funded by the foundation of Hasso Plattner who is one of the founders of SAP.

HPI offers a Bachelor and a Master Program in IT-Systems Engineering. The objective of the Bachelor's program is to prepare graduates to understand, analyze, plan, and construct large and complex IT systems. The study content of the Master's Program is predominantly process-oriented. The processes of development, distribution and use of software systems play a central role in the program which strongly emphasis on involving students in practical projects with industrial companies from the early stages of the program. The programs are aimed at gifted young people who are interested to take a chance to study in a university institute that is strongly related to world-class and well-established companies in the IT and communications technology industries like Microsoft, SAP, Siemens, IBM, T-Mobile, and others. Results of research projects are immediately integrated into the curriculum. In order to prepare graduates for their professional practice, HPI Bachelor's and Master's program concludes with projects that give students the opportunity to test, enhance, and reflect their own skills in the field of IT-Systems Engineering.

Alongside its Bachelor's and Master's programs "IT Systems Engineering", the HPI is also dedicated to providing postgraduate education. Since 2005 it has been running a Research School for "Service-Oriented Systems Engineering", modeled after the DFG's (German Science Foundation) postgraduate PhD-programs. At the HPI Research School, postgraduates and postdoctorates are mentored jointly by all HPI professors. 25 junior researchers (postgraduates and postdoctorates) are currently endowed with scholarships for research on "Service-Oriented Systems Engineering", a topic that is very closely related to a challenging fundamentally new approach to

manage the increasing complexity of IT-systems in industry.

The research of all HPI-chairs focus, from the different perspectives of their respective fields of expertise, on Service Computing; a field that deals with the scientific and technological issues raised by the interconnections between business processes and IT services. Basic technologies include Service-Oriented Architectures (SOA), Web Services, Business Process Integration (BPI), and performance and resource management approaches in distributed environments. In the research, as in the teaching, HPI places great emphasis on scientific excellence, practice orientation and close cooperation with industry. Reason for the cooperation with industry is the credo that being familiar with latest developments in industry and in particular with IT-industry helps to identify those problems and limitations that need to be solved and overcome by intensive disciplinary research work in computer sciences and the development of innovative ideas by methods like design thinking.

Beside of the cooperation with industry in teaching and research HPI works closely with a network of distinguished academic partner institutions such as Stanford University, the Massachusetts Institute of Technology (MIT), the Beijing University of Technology and a number of European universities. E.g. in cooperation with the Stanford university HPI offers courses in Design Thinking a new method for developing innovative ideas in all areas of life. The concept is based on the conviction that true innovation can only take place when strong multi-disciplinary groups decide to create a common culture and then research the interface of differing opinions and perspectives. User-friendly solutions brought about by cross-disciplinary cooperation among scientists from different fields are considered the key to solve all types of real world problems not only in the field of IT-systems engineering.

Sources and Relevant Websites:

www.hpi.uni-potsdam.de

www.hpi.uni-potsdam.de/forschung/forschungskolleg

www.hpi.uni-potsdam.de/forschung/design_thinking_research

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The bilateral HPI-Stanford Design Thinking Research Program supports investigations into the most efficient methods of teaching and learning innovative skills in order to create more innovation in general by means of the method of design thinking. It provides an environment for rigorous academic study of the design thinking approach, its preconditions, best practices, tools, applications, and results in order to bring next generation innovation to our society.